APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/469,670	12/22/1999	FREDERICK H. SKOOG	23106/74075	5255

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EXAMINER
ODLAND, DAVID E

ART UNIT	PAPER NUMBER
2662	13

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

		Application No.		Applicant(s)	
Office Action Summary		09/469,670		SKOOG, FREDERICK H.	
		Examiner		Art Unit	
		David Odland		2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _17 June 2004_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-10_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-10_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   The following is a response to the amendments filed on 06/17/2004.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
> in section 102 of this title, if the differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

3.   Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi et al.

(USPN 5,434,863), hereafter referred to as Onishi.

Referring to claim 1, Onishi discloses a router for providing transportation of messages

between a main processor and packet flow processors (a router comprising an RM router

manager and RA routing accelerators for which packets are transported between over a bus (see

figure 1)), the messages transported via a transport media (packets are transported over a routing

bus (see figure 1)), the protocol comprising:

a Dynamic Routing and Control (DRC) driver for interfacing to the main processor (the

RM router manager performs routing and control (see figure 1 and column 7 and 8));

a transport interface for interfacing between said DRC driver and the transport media (the

RM router manager interfaces the router bus for packet transmissions (see figure 1 and columns

7 and 8));

a Packet Flow Processor (PFP) driver for interfacing to the packet flow processors (RA

routing accelerators are used to process flows of packets (see figure 1 and columns 7 and8));

a transport interface for interfacing between said PFP driver and the transport media (the

RA routing accelerators interface the routing bus (see figure 1 and columns 7 and 8)); and

said DRC driver and said PFP driver transporting messages between the main processor

and the packet flow processors (the RM routing manager and the RA routing accelerators

transport packets between each other (see figure 1 and columns 7 and8)).

Onishi does not disclose that the RM routing manager and the RA routing accelerator further

comprise API's. However, It would have been obvious to one skilled in the art at the time of the

invention to use API's in the system of Onishi because API's are existing software units used by

higher layer applications to perform lower layer operations, therefore the use of this existing

software would reduce the developmental cost of Onishi since entirely new methods of handling

lower layer operations do not need to be created and thus allow Onishi to conform to an

established standard. Furthermore, having API's will make the Onishi more user-friendly, thus

making it easier to use.

Referring to claim 2, Onishi discloses the system discussed above. Furthermore, Onishi

discloses that the messages transported between the main processor and the packet flow

processors include Internet protocol, routing table distribution and control and maintenance

(messages between the RM routing manager and the RA routing accelerator include IP packets

(see column 9), a routing table (see column 7). Onishi does not disclose that control and

maintenance messages are also transferred between the RM routing manager and the RA routing

accelerators. However, the RM routing manager manages the whole system of Onishi(see

column 7 lines 1-5). Therefore, it would have been obvious to one skilled in the art at the time of the invention to use control and maintenance messages in the system of Onishi because such messages will help the system perform properly, thereby making the system more reliable.

Referring to claim 3, Onishi discloses the system discussed above. Furthermore, Onishi discloses that the PFP driver transports traffic messages between ingress and egress ports of one or more of the packet flow processors via the transport media (the RA routing accelerators transmit and receive packets over the routing bus (see figure 1 and column 7)).

Referring to claim 4, Onishi discloses the system discussed above. Furthermore, Onishi discloses that the traffic includes Internet protocol (the packets transported in the system of Onishi are IP packets (see column 9)). Onishi does not disclose that the system also transports multi-protocol labels (MPLS) traffic. However, It would have been obvious to one skilled in the art at the time of the invention to transport MPLS traffic as well as IP traffic in the system Onishi because doing so would make the system more versatile in that it can support more than one transport protocol.

Referring to claim 5, Onishi discloses the system discussed above. Furthermore, Onishi discloses that the DRC driver translates message format and routing information between a first protocol used by the main processor and a second protocol used by the transport media (the RM routing manager uses a particular protocol for performing its operations and the router bus of the system uses a different protocol, such as packet transportation, thus inherently the RM routing manager has a driver to perform the function of transporting the routing and transport information, which is to be used by each of the accelerators, from itself into a format amenable to the router bus (see figure 1 and column 7)).

Referring to claim 6, Onishi discloses the system discussed above. Onishi does not

disclose that the DRC driver includes a routing table including addresses of the PFPs. The RM

routing manager must inherently know the addresses of the RA routing accelerators since it

needs to control each one of them and send them information via the routing bus. However, it

would have been obvious to one skilled in the art at the time of the invention to implement the

addressing of the RA routing accelerators in a routing table because without a table the RM

routing manager would have to broadcast to all accelerators any information it wanted to send to

a particular accelerator, thereby wasting bandwidth of the routing bus.

Referring to claim 7, Onisho discloses a system comprising a Packet Flow Processor

(PFP) driver for interfacing to the packet flow processors (RA routing accelerators are used to

process flows of packets (see figure 1 and columns 7 and8));

a framework transport interface for interfacing between said PFP driver APIs and a

system transport media (the LC LAN Cards make up a 'framework transport interface' and they

interface the RA routing accelerators (see figure 1)), wherein the framework transport interface

can be configured to support system transport media having a number of different transport

protocols and media (the collection of LC LAN cards make up the framework transport interface

and they use different protocol and media such as FDDI, B-ISDN, Ethernet and Token Ring (see

figure 1));

a Dynamic Routing and Control (DRC) driver for interfacing a routing processor (an RM

router manager is used for controlling the routing of data packets and note that there must be

software (i.e. a 'driver') running the RM manager and thus this software 'interfaces' the RM

manager (see figure 1 and columns 4 and 5));

a transport interface for interfacing between said DRC driver and the system transport

media (the routing bus 1, accelerators 3, EISA bus 4 and LC LAN Cards make up a transport

interface that interface the RM routing manager with system transport media (see figure 1 and

columns 7 and 8)).

Onishi does not disclose that the RM routing manager and the RA routing accelerators further

comprise API's. However, It would have been obvious to one skilled in the art at the time of the

invention to use API's in the system of Onishi because API's are existing software units used by

higher layer applications to perform lower layer operations, therefore the use of this existing

software would reduce the developmental cost of Onishi since entirely new methods of handling

lower layer operations do not need to be created and thus allow Onishi to conform to an

established standard. Furthermore, having API's will make the Onishi more user-friendly, thus

making it easier to use.

Referring to claims 8 and 9, Onishi discloses that the DRC has a routing table and

communicates the routing information to the PFP to update the routing tables of the packet flow

processors (the RM manager sends updates routing tables to the RA accelerators (see column 7

lines 44-67));

the DRC communicates IP messages to and from the packet flow processors that service

IP network traffic (the router processes IP packets (see column 1));

Onishi does not disclose that the RM routing manager and the RA routing accelerators further

comprise API's. However, It would have been obvious to one skilled in the art at the time of the

invention to use API's in the system of Onishi because API's are existing software units used by

higher layer applications to perform lower layer operations, therefore the use of this existing

software would reduce the developmental cost of Onishi since entirely new methods of handling lower layer operations do not need to be created and thus allow Onishi to conform to an established standard. Furthermore, having API's will make the Onishi more user-friendly, thus making it easier to use.

4.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi in view of Mangipudi et al. (USPN 6,728,748), hereafter referred to as Mangipudi.

Referring to claim 10, Onishi discloses the system discussed above. Onishi does not disclose that the DRC communicates configuration and performance-monitoring messages to the packet flow processors. However, Mangipudi discloses a system wherein a policy engine of a router controls the performance monitoring and configuration of the router (see column 5 lines 15-30)). It would have been obvious to one skilled in the art at the time of the invention to implement this feature into Onishi because doing so would make the system more reliable, robust and versatile. Furthermore, Onishi does not disclose that the RM routing manager and the RA routing accelerators further comprise API's. However, It would have been obvious to one skilled in the art at the time of the invention to use API's in the system of Onishi because API's are existing software units used by higher layer applications to perform lower layer operations, therefore the use of this existing software would reduce the developmental cost of Onishi since entirely new methods of handling lower layer operations do not need to be created and thus allow Onishi to conform to an established standard. Furthermore, having API's will make the Onishi more user-friendly, thus making it easier to use.

Response to Arguments

5.   Applicant's arguments filed 06/17/2004 have been fully considered but they are not

persuasive.

On page 5 the Applicant argues that the nowhere in Onishi is a transport interface

described. The Examiner respectfully disagrees. Onishi clearly discloses a router bus that

transports data and is interfaced by, *inter alia*, an RM Router Manager (see items 1 and 2 in

figure 1).

On page 6, the Applicant contends that the Office action cites no references that state

adding APIs to DRC and PFP drivers would reduce the development costs and make the system

more reliable. The examiner recognizes that obviousness can only be established by combining

or modifying the teachings of the prior art to produce the claimed invention where there is some

teaching, suggestion, or motivation to do so found either in the references themselves *or in the*

knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837

F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941

(Fed. Cir. 1992). In this case, APIs (Application Programming Interfaces) are established and

standardized higher layer programs that provide users of a system with a way to communicate

with and control lower layer functions (see Appendix A of the Final Office Action mailed

02/17/2004 (paper number 9), for a definition of API from *Newton's Telecom Dictionary 12th*

Edition, copyright 1997). Furthermore, using existing and established programs, such as APIs,

in a system are generally known in the art to reduce the developmental cost of the system since

the programs already exist and are standardized. Therefore, it would have been obvious to a

skilled artisan at the time if the invention to implement API's in the Onishi system because doing

so would allow the system to conform to an already existing standard, thus reducing

developmental costs. Furthermore, as pointed out in the definition of an API, these programs are

used at a higher-layer in order to perform lower layer operations, wherein they are implemented

as a Windows program and have icons, menus that are part of a Graphical User interface (GUI).

Therefore, it would have been obvious to a skilled artisan at the time of the invention to use

API's in the Onishi system doing so would make Onishi more user-friendly by allowing the

users to control the router using this higher-layer, GUI-based user-friendly interface.

Also, on page 6 the Applicant exhorts that the only motivation to add API's to a DRC

driver and PFP driver are found in the Applicants specification. The Examiner respectfully

disagrees. The motivation relied upon by the Examiner is not found in the present application. It

must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction

based upon hindsight reasoning. But so long as it takes into account only *knowledge which was*

within the level of ordinary skill at the time the claimed invention was made, and does not

include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper.

See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The Examiners motivation

for using API's in the Onishi system was to reduce developmental costs and make the system

more user-friendly. Namely, the previous office action states "…It would have been obvious to

one skilled in the art at the time of the invention to use API's in the system of Onishi because

API's are existing software units used by higher layer applications to perform lower layer

operations, therefore the use of this existing software would reduce the developmental cost of

Onishi since entirely new methods of handling lower layer operations do not need to be created

and thus allow Onishi to conform to an established standard. Furthermore, having API's will

make the Onishi more user-friendly, thus making it easier to use."

Lastly, on page 6 the Applicant argues that "The Onishi reference merely discloses the

known methods of system specific IP routers that do not lend themselves to being portable to

multiple operating environments, as stated in the present application at page 2, lines 9 and 10."

However, this feature of the Applicants invention is not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification

are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir.

1993).

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to David Odland whose telephone number is 703-305-3231. The

examiner can normally be reached on Monday - Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou, can be reached at (703) 305-4744. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

deo

July 8, 2004

HASSAN KIZOU
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